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10/595,612	05/01/2006	Timothy George Bissett	UDL0173PUSA	3548

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EXAMINER	
CAHN, DANIEL P	

ART UNIT	PAPER NUMBER
3634	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,612	BISSETT, TIMOTHY GEORGE	
	Examiner	Art Unit	
	DANIEL CAHN	3634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Examiner notes that the newly added Figures are capable of being restricted based on Species since they are drawn to two different types of energy absorbers. However, as claimed, it does not seem to be burdensome and a restriction will not be applied to the case currently. 10

Claim Objections

Claim 13 is objected to because the **'said resilient energy absorber'** should read as something such as 'the at least one said energy absorber' so that it is less awkward and unclear.

Claim 15 is objected to because of the following informalities: The phrase, **fall arrest event is deployed undergoing**, seems to need a comma between even and deployed. Otherwise it is found to be awkward and unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as anticipated by Matoba (US 7117975) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matoba.

Regarding claim 1, Matoba teaches **a fall arrest system comprising a fixed vertical cable** (7; Fig. 1, where examiner notes that a chain is a type of cable in the definition below[1]) **pre-tensioned between an upper anchor point** (2, 15, W, 1, 3, G and all other elements related to these parts that aid in dampening the system; examiner further notes that it is inherent for a chain/rope/cable to be wrapped around two pulleys with tension and further the examiner notes that it must be inherent in this case specifically since spring 14 in Figure 1 is biasing upwards against the pulley, therefore pulling on the chain providing it with tension) **and a lower anchor point** (10, 11, 23, 24, 12, and 13) **and further including a first energy absorbing means** or spring (15) **associated with the upper anchor point to control the shock load applied to the upper anchor in the circumstance of a fall arrest event** (as discussed in excerpt below)**.**

However, in the alternative, if it is found that either 1) a chain is not a cable or that 2) the chain is not inherently pre-tensioned the following explanation asserts obviousness.

In the case that a chain is not considered a cable, the examiner notes in the background of the invention of Matoba that prior patents have expressed using a chain

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[1] **ca·ble** (kā'bəl)
n.
1.
a. A strong, large-diameter, heavy steel or fiber rope.
b. Something that resembles such steel or fiber rope.
2. *Electricity* A bound or sheathed group of mutually insulated conductors.
3. *Nautical*
a. A heavy rope or chain for mooring or anchoring a ship.

or rope between two pulleys. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a rope/cable/chain between the two pulleys since they act as functional equivalents to carry a load between the two pulley's and that one of ordinary skill in the art would choose a rope, chain or cable as a mere preference or engineering choice based on the desired properties, such as durability, flexibility and tensile strength.

Further, if it is not found to be inherent that the cable/rope/chain is being pre-tensioned, the examiner takes Official Notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to have pre-tensioned the cable/rope/chain between two pulleys in order to ensure that the rope is taut so it does not sway about and cause a user possible harm or taut so that the cable/chain/rope does not disengage from the pulley/sheave/sprocket.

Examiner would further like to point out that the term 'pre-tensioned' is extremely broad.

Excerpt 1 from column 4

When a plurality of people (with a total weight of, for example, 200 kg) are attached to the suspension chain **7**, the vertically movable housing **2** housing the sprocket G moves downward and the light-duty spring is compressed, and when a larger load is applied by more people being attached (with a total weight of, for example, 2 t), the bottom plate B of the vertically movable housing **2** contacts the top plate **15***a* of the heavy-duty spring, and the heavy-duty spring is compressed, thereby exerting a cushioning property. Stoppers **16** and **16***a* are provided in the lower part of the immovable housing W. When the vertically movable housing **2** moves to the lowermost portion, the stoppers **16** and **16***a* receive the vertically movable housing **2** and prevent the housing and other parts from being damaged.

Regarding claim 2, **the first energy absorbing means** (15) **is adapted to control** [capable of controlling] **the load applied to the upper anchor point.** The spring controls or restrains the overall load applied.

Regarding claim 3, **a fall arrest device** (F) **is mounted on the vertical cable/chain and a second energy absorbing means** (13) **associated with** (examiner notes that the term 'associated with' is extremely vague and broad) **the fall arrest device, in which the second energy absorbing means** (13) **is adapted to control** [capable of controlling] **the load experienced by a user and the first energy absorber** (15) **is adapted to control the load applied to the upper anchor point.** The springs control or restrain the overall load applied.

Regarding claim 4, **the lower anchor point is arranged to provide** [capable of providing] **an additional extension of the system** (this occurs when the spring (13) is activated/extended)**.**

Regarding claim 5, **the lower anchor point includes a slip element** or sprocket (11)**.** The element 22 could also be considered a slip element for how it causes elements on the arrest device, F, to slip. Examiner notes how broad the term 'a slip element' can be interpreted.

Regarding claim 6, **the lower anchor point is deformable** (the spring is deformable)**.**

Regarding claim 7, **the upper and lower anchor points are at the upper and lower ends of the cable** (refer to Fig. 1)**.**

Regarding claim 8, **a fall arrest device** (F) **arranged for movement along the cable.** The fall arrest device or hook (F) moves along with the cable as the cable is moved by the weight of the escaping human as discussed in the first paragraph of column 7. Further, it is noted the device F can be unhooked and rehooked in a different location of the cable/chain, thereby being 'arranged for' movement along the cable/chain.

> The operation of the present invention composed as above will be described next. When the escape hook F is attached to the suspension chain 7 of the descending device A1 and an escaping person is suspended therefrom, the weight of the escaping person is applied to the suspension chain 7 and generates the rotational torque of the sprocket G. This rotational torque is transmitted to the sprocket **56** mounted on the brake converter shaft of the brake converter S via the power transmitting device A2, thereby rotating the brake converter shaft **59**, actuating the rotational governor **58**, operating the pump impeller through the collar lever **25b** and the control link **25**, and generating braking force by narrowing the distance between the turbine runner and the pump impeller.

Regarding claim 9, **the fall arrest device comprises an energy absorbing means** (82 or 82a; Fig. 8).

Regarding claim 10, it further comprises **one or more cable guides** (G or sprockets/pulleys).

Regarding claim 11, **the additional extension of the system is provided by a second energy absorbing means** or spring (13) **associated with the lower anchor point.**

Regarding claim 12, **at least one of the energy absorbers is resilient**, as springs (13 and 15) are inherently resilient.

Regarding claim 13, in which the **resilient energy absorber is a spring** (13 or 15).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

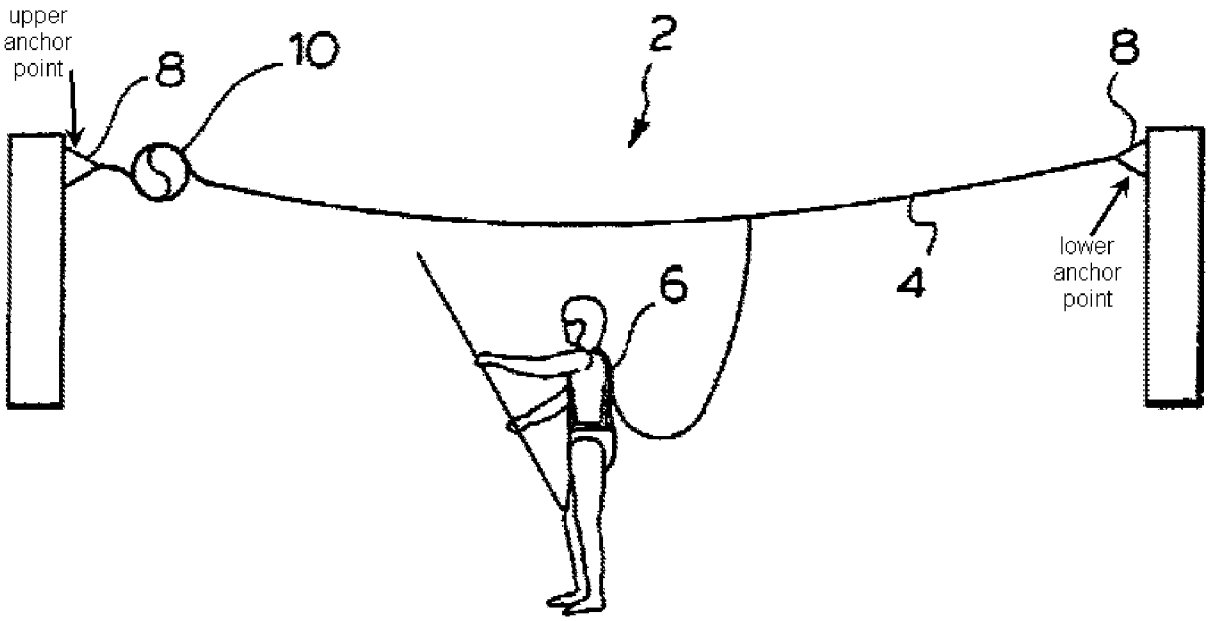
Claim 15 is rejected under 35 U.S.C. 102(b) as anticipated by Small (US 5799760) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Duncan (US 5332071).

Regarding claim 15, **a fall arrest system comprising a fixed vertical cable** (4; Fig. 1) **mounted pre-tensioned** (examiner finds the cable to be pre-tensioned inherently by the weight of the absorber 10 or the cable itself) **between an upper anchor point** (refer to Marked Figure 1 below) **and a lower anchor point** (refer to Marked Figure 1 below) **and further including an energy absorbing element** (10; Fig. 1) **associated with** (examiner considers this terminology 'associated with' as extremely vague and broad) **the upper anchor point in the circumstance of a fall arrest event, wherein the energy absorber element comprises a plastically deformable extension energy absorber element which, in the even of a fall arrest event, is deployed undergoing plastic deformation** (as discussed in the excerpt from Small below).

However, in the alternative, if it is found that the cable is not inherently pre-tensioned, attention is drawn toward Duncan which teaches a safety cable system (refer to Fig. 1) in which the cable is being pre-tensioned by shock absorber 12 or turnbuckle 36. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the cable of Small with the pre-tensioning means as taught

by Duncan in order to prevent sway of the cable and ensure user safety and optimum shock absorbing potential.

Marked Fig. 1



Excerpt from Small from column 3

In one embodiment of the present invention the energy dissipating strip is made solely of ductile material such as steel or aluminium that absorbs energy when the bending strain creates a plastic deformation. In a variant, a compound energy dissipating strip is provided using a combination of ductile/non-ductile materials joined as co-extensive strips. The bending strain plastically deforms the ductile strip and also induces a fracture front in the non-ductile strip that progresses longitudinally as the energy dissipating member bends. The energy absorption capacity of the unit is depleted when the ductile material is deformed to the established limit and the non-ductile material is pulverized. The non-

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matoba as applied to claim 1 above, and further in view of Hasegawa et al. (US 3578376).

Regarding claim 14, all of the elements of the instant invention are discussed in detail above except providing that the at least one of the energy absorbers include a plastically deformable element.

Attention is therefore drawn toward Hasegawa which teaches a similar energy absorbing device (as taught in claim 4 excerpted below) to dampen the impact of a force to a user. It would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the spring 15 in Matoba for a plastically deformable spring such as that found and taught in Hasegawa since the two elements provide functional means to dampen the impact, one would have used a plastically deformable version as a simple engineering choice whether it be to keep down the cost, ensure no bounce back (like a spring could cause) or to allow for easier installation. All the claimed elements were known in the prior art as evidenced above, and one of ordinary skill in the art could have combined the elements as claimed, or substituted one known element for another, using known methods with no change in their respective functions.

Such a combination would have yielded predictable results to one of ordinary skill in the art at the time the invention was made, since the elements perform as expected and thus the results would be expected.

4. A seat assembly as claimed in claim 3, wherein said energy absorbing member comprises a component capable of expansible and compressible deformation, wherein said expansion or compression plastically deforms said component against the internal resistance of said component.

5. A seat assembly for a vehicle, comprising in combinati...

Response to Arguments

Applicant's arguments filed on 10/09/2009 have been fully considered but they are not persuasive. The system of Matoba teaches everything as mentioned in the office action above, as well as the vertical cable/chain (as discussed above) as being fixed between the upper and lower point. The term 'fixed' is quite broad, and the simple fact that it the cable/chain is arranged and firmly secure to the sprockets means that it is 'fixed' to the upper and lower anchor points. Further, the chain argument stating that Matoba does not use a chain is well addressed in the office action above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL CAHN whose telephone number is (571)270-5616. The examiner can normally be reached on Monday through Friday (9 a. m. to 5 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached on 571-272-7069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL CAHN/
Examiner, Art Unit 3634

/KATHERINE W MITCHELL/
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